PROFESSIONAL DEVELOPMENT TOOLKIT
FOR NEW AND BEGINNING TEACHERS

TECHNOLOGY USE AND INTEGRATION

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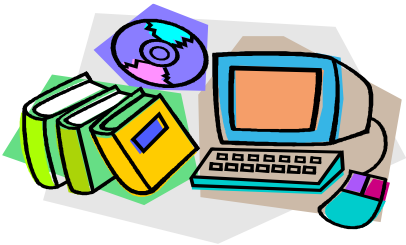

Virginia Commonwealth University

The Commonwealth Educational Policy Institute

L. Douglas Wilder School of Government and Public Affairs

Richmond, Virginia

PROFESSIONAL DEVELOPMENT TOOLKIT
FOR
NEW AND BEGINNING TEACHERS

A project administered by

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L. Douglas Wilder School of Government and Public Affairs
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Professional Development Toolkit for New and Beginning Teachers

The PROFESSIONAL DEVELOPMENT TOOLKIT FOR NEW AND BEGINNING TEACHERS is a research-based video streamed program with accompanying resource documents. The program is an outgrowth of a previous Commonwealth Educational Policy Institute (CEPI) online mentoring study at Virginia Commonwealth University. The findings of the online mentoring study revealed twelve topics new and beginning teachers felt additional university training would have led them to more effective use of best practices in the classroom. In this program, each of the twelve topics is presented in two to six stand alone video segments. The total number of segments is forty five. Suggested uses, in addition to personal viewing by K-12 teachers for self improvement, include professional development, mentor and mentee, university prospective teacher, and small or large group training.

The facilitators are university faculty and practitioners with field experience. Each is currently involved in teacher training or serves as a staff development administrator. All are currently engaged in educational research, teaching and/or educational policy development.

The teachers in the video programs are classroom teachers. Some of them were participants in the 2006 Online Mentoring Study in which the topics for this project were identified. They represent all disciplines in K-12 grades.

Resource documents for the programs are provided as PDF files to facilitate the use of the 45 video segments. The first set of documents is composed of: (1) a description of the project, (2) an introduction to program facilitators, including a definition of each topic, and a list of the video segments, and (3) a research formative study summary that helped to guide the project's development. The second set of documents is composed of: (1) a description of the project, (2) a full text transcript for each video segment, (3) a set of problems and solutions related to each video segment in the form of a work-study guide, and (4) an annotated bibliographic summary of references and Internet links for each transcript. Many of the organizations and agencies referenced in the transcripts are actively involved in the development of video and professional development presentations that support policy and advocacy.

Every reasonable effort is made to present current and accurate information. Internet content, however, does appear, disappear and change over time. CEPI, as a university-based educational policy research institute endorses no specific position of any listed group.

TECHNOLOGY INTEGRATION

SEGMENT #1: TECHNOLOGY AS A CLASSROOM TOOL

🗁 VIDEO SEGMENT TRANSCRIPT

Technology Use and Integration: Ability and skills necessary to make use of technology as an instructional and evaluative tool to assist the development of such skills as critical thinking, test taking, and problem solving.

Facilitator: Dr. Bill Bosher, Jr. Distinguished Professor
Educational and Government Leadership and School Improvement
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AUDIO	VIDEO
A teacher has many resources or tools available to support teaching and learning. Once upon a time, those tools, other than the textbook, consisted mainly of a chalkboard, typewriters, pencil and paper, lesson planning books, and calculators. The use of 16mm films, filmstrips, and instructional television, increased that collection of tools and gave teachers new opportunities to enhance instruction. With the introduction of personal computers in schools the phrase "instructional tool" took on a whole new meaning! I am Bill Bosher, Executive Director of the Commonwealth Educational Policy Institute and VCU Distinguished Professor of Public Policy and Education. In this segment I want to focus your attention on how you as a new teacher can use new and emerging technologies to addresses the challenges of teaching and learning. Technology has become a very important resource, or tool in education. Newer computer-based tools assist you with planning, implementing, and evaluating instruction and enhance and extending student learning. Technology is the tool that you can use to help achieve local and state educational goals and objectives. Computer technology use in schools has increased dramatically in the past ten years and predictions by the U. S. Department of Education are that this trend will continue to accelerate. Researcher Lynne Schrum concluded that it is not enough to tell educators that they need to use the boxes and wires that have invaded their schools simply because they are expensive or because students need to know how to use the latest widget. If it's clear that technological tools will help them achieve the goal of changing the nature of learning, educators will use those tools. In a technology-rich classroom, students don't "learn" technology. But I bet you are saying to yourself, "But Dr. Bosher students have to be taught how to operate the technology tools, don't they?" And my response to that is "Yes, they do."	DR. BOSHER

Students should be able to demonstrate a sound understanding of technology operations and concepts. The Virginia Computer/Technology Standards of Learning identify and define the progressive development of essential knowledge and skills necessary for students to access, evaluate, use and create information using technology. Computer/technology proficiency is not an end in itself, but lays the foundation for continuous learning. The focus is on learning using technology rather than learning about technology. Teachers can use these standards as guidelines for planning technology-based activities in which students achieve success in learning, communication, and prepare them to meet the challenges of today's technology-rich world of work. Our objective is to focus the use of technology to meet learning needs of our young people and provide them with enriched and engaging learning experiences. Technology provides new teachers and all educators with the options. Options that support the many challenges to teaching and learning in the 21st century. What are some of those challenges facing today's classroom teacher? Well, they fall in three main categories: meeting the learning needs of a diverse student body, meeting state and local academic standards, and assessing student progress. How do teachers decide whether or not to use technology tools to meet these challenges? I think that technology is an appropriate tool to use if you want to supplement instruction, for remediation, individualize instruction and for collaborative learning; to name a few. But let's ask them how they decide to use technology in teaching and learning.	
I'm Emily Hedstrom, and I've been teaching for one year. I teach 6-8th grade social studies We face a range of challenges – from behavioral, to varied learning needs, to supplies .Technology can step in as a tool in any of these circumstances. Because each of my middle school students has an iBook, I'm able to plan activities that are engaging and dynamic for any topic. In order to have a home base whenever my students are on their iBooks, I set up a blog. The blog allows me to store approved links in one location, put up posts with questions that extend the lesson, and help posts that jumpstart an activity. For example, my 8th grade civics students needed encouragement to think critically about political issues and the controversies surrounding party platforms. In order to teach them the meaning of conservative and liberal, I sent them to a post on my blog. From there they read the directions for the task. They visited the embedded link to a site that gave important political issues and the corresponding conservative and liberal views. They were able to do this all without linking conservative and liberal views to their respective parties. Students then followed the directions by posting a comment that gave their opinion on an issue of their choice. They also got a chance to respond to each other's comments, which evolved into an interesting class discussion. By using the blog, I	**EMILY HEDSTROM**

was able to give them the tools they needed to complete the assignment all in one place. They also got the immediate enjoyment of seeing their comment show up on the web.	
My name is Allison Sapp. I am a middle school math teacher. I have taught for one year. I am currently in my 2nd year of teaching. I use technology tools in teaching because in my classroom, like students have a variety of learning styles. First, using technology has been a great way for me to individualize instruction to meet the needs of diverse learners. Second, technology is a way to introduce a new topic in more exciting ways. It gets students more enthusiastic and highly motivated to learn. Third, technology is a valuable tool for student assessment when use of paper and pencil is not required. Additionally, there are many websites such as Quia, Explorelearning, Study Island, and Apangea that students can use to obtain study guides, practice, and to take tests and quizzes. Immediate feedback is received from these sites. Quia, for example offers a blog to post classroom information such as Homework, Quiz and Test dates, as well as school news. Some of these websites are not only useful to students but also to their parents who are able to log onto the website to monitor their child's performance in the classroom.	**ALLISON SAPP**
Technology is a wonderful tool that can be lots of fun. It's often ancillary to what we teach and how we teach. Our true goal is to make sure that it is integrated so that technology makes the classroom come alive and technology brings things to us that we would not typically have. With technology everyday in the classroom is a potential field trip.	**DR. BOSHER**

🗁 PROBLEMS AND SOLUTIONS

Ask yourself:

How am I using technology personally? How do I incorporate technology into my teaching? What new techniques do I want to try in the future?

Suggested use for this module:

1. **Analyze:**

   Please select one of the scenarios below and problem-solve a list of possible solutions. Record your ideas in the space provided. Discuss these ideas with your other educators (mentor, colleagues, or other beginning teachers).

2. **View:**

   Watch the corresponding video on this topic. How does this information change your ideas?

3. **Compare:**

   Revisit the scenario selected. Next, review the section entitled, "Possible Solutions" comparing the ideas listed with your own list.

4. **Reflect:**

   How will you apply this new information to your current or future classroom? What goal will you set to help you begin to change your practices? What support is needed to help you accomplish this goal?

5. **Apply:**

   List the first step towards change below. Create a timeline for success and place deadlines in your personal planner as a reminder. How will you know when you have met your goals?

Scenarios 1 & 2: Technology Use and Integration

Scenario 1

Don: "My students are all technology natives using digital materials in almost every aspect of their lives. They use technology for text messaging, viewing websites and movies, downloading music, playing video game systems, and researching for their homework assignments. I find it challenging to incorporate less paper and more technology into my classroom. I feel that there is a disconnect between my students and my teaching methods."

How does Don's classroom compare with your own teaching experiences?

Scenario 2

Susan: "I love using multimedia in my classroom. I am currently using digital tools to take digital field trips on my content and for student's to publish their writing. Student's also complete literature circles on the classroom laptops, discussing the novels we have been reading. Although my students enjoy these activities, I would like to try something new for my next teaching unit."

What ideas do you have for Susan to try? How does your classroom compare with her methods?

Circle the scenario that you selected below:

Scenario 1 Scenario 2

Record a list of your own possible solutions here:

Summary & Goal Setting:

POSSIBLE SOLUTIONS

Integrating technology into your teaching will enhance learner engagement and improve understanding of content knowledge. Use digital tools to share knowledge and link learning with real-world experiences in real-time formats. Technology is a useful tool for teaching students to solve problems for themselves, improving interactions with others with diverse backgrounds, and tracking learning across time.

Teacher Time-Saving Solutions:

- Utilize email to increase the speed of communication and improve your access to information.
- Convert paper processes to digital processes to eliminate administrative bottlenecks
- Scan copies of student work to create e-portfolios and to share progress with families
- Use presentation software to create countdown clocks, test reviews in game show formats, and provide visuals during instruction.

Integrating Technology into Instruction:

- Encourage students to chat about content or key ideas on your teaching unit in a shared classroom forum (word processing, internet)
- Teach students to use technology to display, gather, and analyze information (Possible tools: webs and organizers, word processing, databases, and spreadsheets)
- Encourage students to work in cooperative groups to share information (presentation software)
- Create classroom outlines, idea maps, storyboards, and graphic organizers (word processing, software)
- Incorporate electronic fieldtrips to virtually visit places of study (internet)
- Seek information to unanswered questions (Research and information retrieval, search engines)
- Design a WebQuest for inquiry-oriented learning (internet)
- Organize student presentations and group work (word processing, presentation software)
- Collaborate with other students learning about the same topic (internet, word processing, video)
- Utilize digital cameras to:
    - ✓ take photos of class experiences and write about them
    - ✓ use photos for graphing or sequencing activities
    - ✓ inspire creative writing
    - ✓ create an alphabet book which summarizes key learning in any subject area
    - ✓ email as an attachment for families in a good news message
    - ✓ insert photos as newsletter illustrations
    - ✓ build vocabulary for all learners (especially ELL students)
    - ✓ to compare different ecosystems or habitats

- ✓ teach specific skills (such as simile and metaphors)
- ✓ create a brochure or power point for a unit of study

Most school divisions have technology specialists who can co-teach or share teaching resources. Find out who serves in this capacity in your building and request support!

🗁 ANNOTATED RESEARCH BIBLIOGRAPHY

❖ Mentors need to remind beginning teachers to not underestimate the amount of work involved in making technological transitions both for themselves and for their students.

Runge, A.: Speigel, A.: Pytlik, L.: Dunbar, S.; Fuller, R., Sowell, G. & Brooks, D. (1999). *Hands-on computer use in science classrooms: The skeptics are still waiting.* Journal of Science Education and Technology, 8(1), p.33-44.

❖ Research points to time as the major instructional concern. The technological learning curve has a huge time component. Mentors should try to help new teachers make realistic time estimates for learning or teaching. Many new technology and have them be prepared to let go of some other parts of their curriculum or instructional activities.

Niguidula, D. (1997). *Picturing performance with digital portfolios*. Educational Leadership, 99(3), p. 26-29.

❖ It is essential that new teachers take time to survey and evaluate the potential that specific Internet sites offer. Technology has its quirks and breakdowns, and access may not be available on demand or on the class's schedule; mentors may need to remind new teachers to include alternatives in their lesson planning just in case problems arise.

Mistler-Jackson, M. & Songer, N. (2000). *Student motivation and internet technology: Are students empowered to learn science?* Journal of Research in Science Teaching, 37(5), p. 459-479.

❖ The RAC (research, analysis, and communication) model is an instructional framework for integrating technology into the curriculum through lesson planning and assessment across subjects and grade levels.

- Research: students gather information from various sources
- Analysis: data analysis depends upon the results of the research
- Communication: students prepare products to share their results

Bowens, E. M. (2000). *Meeting standards with technology.* Retrieved October 18, 2007, from www.iste.org

❖ Research suggests that teachers identified the following benefits of RAC- based (research, analysis, and communication) lesson planning:

- It allows for more student-centered learning.
- Students engage in more critical thinking.
- Material can be integrated across subject areas
- It is easily incorporated into performance-based classrooms.
- Students are required to apply important skills in a meaningful context.
- It provides opportunities to evaluate students' work.

Bowens, E. M. (2000). *Meeting standards with technology.* Retrieved October 18, 2007, from www.iste.org

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Niguidula, D. (1997). Picturing performance with digital portfolios. *Educational Leadership*, 99(3), p. 26-29.

Runge, A.; Speigel, A.; Pytlik, L. Dunbar, S.; Fuller, R., Sowell, G. & Brooks, D. (1999). *Hands-on computer use in science classrooms: The skeptics are still waiting*. Journal of Science Education and Technology. 8(1), p. 33-44.